

FOSSIL AND LIVING SHELLS FOUND IN LITTLE MUD LAKE, WESTMANLAND, AROOSTOOK COUNTY, MAINE.

BY OLOF O. NYLANDER.

This small lake is located in the forest near the south line of Westmanland Plantation, and is the headwater of Salmon Brook. This little lake contains some interesting shells not found in the county before. The deposit of dead shells (marl) is many feet in thickness, and is chiefly composed of *Pisidia*.

The living shells are extremely rare in the lake, and those collected came from small spring brooks at the north end of the lake. Dr. V. Sterki has kindly examined all the *Pisidia*. I do not know what the amateur collectors would do with these miserable little shells without his assistance. The fossils collected are as follows:

Lymnæa desidiosa Say. Common.

Planorbis campanulatus Say. Common.

Planorbis bicarinatus Say. A few young shells.

Planorbis hirsutus Gld. One specimen.

Planorbis parvus Say. Abundant.

Ancylus parallelus Hald. One specimen.

Valvata sp.? A variable species; some are nearly flat, others have the apex extremely elevated, a large percentage are decollate and the whorls are sometimes dislocated near the apex.

Mr. Bryant Walker has examined specimens and states: "They are extremely curious * * * I have never seen any like them before. They are no doubt a form of *V. sincera* Say."

Dr. W. H. Dall gives me the following information: "They are exactly like the depauperate form of *V. lewisii* Currier. * * * The distortions are familiar to me as found in marl deposits, the water becoming too much mineralized for the mollusks."

I made special efforts to obtain living specimens of this *Valvata* during the two trips to the lake, but not one could be found.

Anodonta fragilis Lam. Fragments.

Sphærium sulcatum Lam. A few valves.

Sphærium rhomboideum Say. Common.

Musculium sp.? probably *securis* Prime. Small.

Pisidium variabile Prime.

" *compressum* Prime.

" *affine* Sterki.

- Pisidium mainense* Sterki.
 “ *ventricosum* Prime.
 “ *costatum* Sterki.
 “ *medianum* var. *minutum* Sterki.
 “ *contortum* Prime.
 “ *triangulare* Sterki.
 “ *tenuissimum* Sterki.
 “ *splendidulum* Sterki.
 “ *splendidulum*, a new var.—Sterki.
 “ *abditum*? or closely related to that species.

The following living shells were collected:

- Planorbis trivolvīs* Say. Two specimens.
Planorbis parvus Say. Three specimens.
Anodonta fragilis Lam. One specimen.
Musculium sp.? A small form, probably a new species.
Pisidium variabile Prime.

- “ *ventricosum* Prime.
 “ *subrotundum* Sterki.
 “ *mainense* Sterki.
 “ *medianum* var. *minutum* Sterki.
 “ *splendidulum* Sterki.
 “ *splendidulum*, a new variety.—Sterki.

As additions to the Aroostook county shells, I might mention *Pisidium punctum* var. *simplex* Sterki. Dead water Caribou stream, Woodland. Rare and new to the county.

Pisidium milium Hald. is common in Gelot's Lake, New Sweden. Caribou, Me.

REMARKS ON THE SUBFAMILIES HYRIINÆ AND UNIONINÆ.

BY L. S. FRIERSON.

A few facts having important bearing on the classification of the *Naiades*, having come to notice, are herewith given to the readers of NAUTILUS.

Two species of the genus *Pseudodon* were obtained from Sowerby and Fulton, showing beak sculpture. *P. vondembuschiana* Lea has a somewhat doubly looped sculpture. The anterior loops curve upwards; the posterior are straighter, sloping backwards and downwards.

P. walpolei has a sculpture much like that of the *Cristarias*, being heavy bars, more or less parallel with the growth-lines.